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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHANG, EDITH M

ART UNIT	PAPER NUMBER
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2611

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/938,459

Applicant(s)

NORMAN, CHARLES P.

Examiner

Edith M. Chang

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 20, 2006 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claims 7-11, 13, 14 and 16-20 are objected to because of the following informalities:

Claim 7, line 6: "a comb filter" should be "the comb filter".

Claim 13 & Claim 16, line 2: "a frequency generator" should be "frequency generators" as disclosed in FIG.1 and described in page 7 lines 5-6 of the specification;

line 3: "a second mixer" should be "second mixers", "the frequency generator" should be "the frequency generators".

Claim 14 & Claim 17, line 2: "the second mixer" should be "the second mixers".

Claims 8-11 and 18-20 are dependent on the objected claim 7 and 17 respectively.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 6-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6, lines 1-2: "the compressed GPS signal" lacks antecedent basis. In claim 5, a first compressed GPS signal recited.

Claim 7, lines 2-3: recites receiving the second compressed GPS signal, produced by the bandpass filter recited in the claim 6, from a remote location via a wireless communications link that does not disclosed in the FIG.1, wherein the GPS signal received via a wireless communications link and the signals from the Base Station are via a wireless communications link (104). The second compressed GPS signal is produced by the bandpass filter (128 FIG.1) not via a wireless communications link. The limitation recited in lines 2-3 is indefinite.

Claim 12, line 7: "the mixer" lacks antecedent basis.

Claims 13 & Claim 16, line 1: "the frequency shifter" lacks antecedent basis.

Claims 8-11, 14-15 and 17-20 are dependent on the rejected claims 7, 13 and 16 respectively.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-8 and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard (US 5,241,561) in view of Stehlik (US 5,517,529).

Regarding **claims 1, 5 & 12**, Barnard discloses in Fig.3 a GPS receiver 16 (an apparatus, column 5, lines 42-46 describes a NAVSTAR GPS receiver '561) and it method, the apparatus comprising:

An antenna 20 and a filter and amplifier 21 (as a receiver, column 5, lines 47-51) receiving the GPS signal via the antenna;

A mixer 24 and 25 (as a first mixer) coupled to the element 21 (the receiver) producing the I and Q components (as a first result signal, column 5, line 64-column 6, line 2);

A comb filter 36 and 37 (column 6, lines 18-21) coupled to the first mixer 24 & 25 to produce a plurality of passband signals at 1kHz intervals (a second resultant signal comprising filter lines, column 6, lines 21-24) from the comb filter.

However, Barnard does not explicitly show a frequency generator of a frequency shifter, Stehlik teaches a decimation filtering and decimation means 430 in FIG.11 (column 11, lines 55-58 '529) with the cascaded comb filter 454 shown in FIG.14. The cascaded comb filter 454 has the register 604 and 606 (frequency shifting generating) to shift a input signal and subtract 602 (mixing or combining) with the input signal shifting the plurality of passband signals at 1k Hz intervals (or the filter lines), wherein the cascade comb filter with elements 604, 606 & the sub 602 as the first frequency shifter disclosed in FIG.14 and described in column 12, lines 47-53 ('529'), that the number of registers determines the number of delays in the subtraction path of the decimation stage.

As Barnard using the comb filter 36 & 37 (Fig.3 '561) having a plurality of passband to shift the frequencies of the GPS signal (column 6, lines 21-24), at the time of the invention was made, it would have been obvious to one of ordinary skill in the art to have the cascade comb filter with registers in the comb cells taught by Stehlik as Barnard's comb filter to generating a plurality of mixing signals at selected delays (frequencies) to compress the GPS signal in digital form to implement a lower cost, digital radio receiver for the purpose of taking advantages associated with digital circuitry (column 1, lines 28-40 '529).

Regarding **claims 2, 6, 14, 17 & 18**, inherit the limitation of the claim 1, claim 5, the claim 13, the claim 16 and the claim 17 respectively, further Barnard discloses a second filter 44 comprising bandpass function (as a second frequency shifter being a

Art Unit: 2611

bandpass filter signal combiner) coupled to the second mixers 42 and 43 to produce a (second) compressed GPS signal (output of the filter 44).

Regarding **claim 3**, inherits the limitation of the claim 1, the combined/modified Barnard GPS receiver discloses cascade comb filter with comb cell for frequency shifting the GPS signal (FIG.14 '529) to an expected location of the filter lines produced by the comb filter.

Regarding **claim 4**, inherits the limitation of the claim 1, the combined/modified Barnard GPS receiver discloses mixing the filter lines of the output (the first output signal) of the comb filter with at least one output of a comb cell of the cascade comb filter (refer to the rationale of the rejection of claim 1).

Regarding **claim 7**, inherits the limitation of the claim 6, Barnard discloses receiving the second compressed GPS signal from the filter 44; mixing the second compressed GPS signal ported by the controller 50 (column 6, lines 51-56, wherein the outputs of filters 44 & 45 are monitored by the controller 50 and output the associated width of frequency bands and the frequency step to 32 in turn the mixer 34 & 35) and the output of the first mixer 24 & 25 (the first resultant signal) by the mixer 34 and 35 to produce an output (the another first resultant signal); and filtering the output through a comb filter (36 and 37) to produce the second resultant signal provided by the comb filter.

Regarding **claim 8**, inherits the limitation of the claim 7, further Barnard discloses mating the output of the mixer 24 & 25 (the first resultant signal, the first input of the

Art Unit: 2611

mixer 34 & 35) with the second input of the mixer 34 & 35 provided by the controller from the filter 44 (the second compressed GPS signal).

Regarding **claims 13 & 16**, inherit the limitation of the claim 12 and 15 respectively, the combined/modified Barnard GPS receiver discloses registers (604 & 606 FIG.14, as a frequency generator '529) and a second mixer 42 and 41 configured to shift the frequencies of the plurality of signals.

Regarding **claim 15**, inherits the limitation of the claim 1, further Barnard discloses the mixer 34 and 35 (as the third mixer) coupled to the element 21 (the receiver) and the first mixer 24 & 25.

8. Claims 9-11, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard (US 5,241,561) in view of Stehlik (US 5,517,529) as applied to claims 7 and 17 above, and further in view of Krasner (US 6,289,041 B1).

Regarding **claims 9-11**, further Krasner teaches a conventional GPS receiver 900 in FIG.9 and an invention in FIG.10 of a combined GPS receiver 1000 with the acquisition circuit 400 (the conventional GPS receiver) and a communication transceiver 1020 (column 13, lines 51-59 '041).

As Barnard's invention related to a direct sequence spread spectrum (DSSS) radio convention receive in the NAVSTAR GPS system, at the time of the invention was made, it would have been obvious to one of ordinary skill in the art to have the combined GPS receiver with a communication transceiver taught by Krasner to upgrade Barnard's GPS receiver in order to transmit the location data of the combined GPS

receiver back or to other remote location for efficiently utilizing the location data (column 14, lines 7-12 '041).

Hence, the combined or (and) modified combined GPS receiver discloses sending the compressed GPS signal from the acquisition circuit 400 (FIG.10 '041, as the second compressed GPS signal) to a Base Station 1006, wherein the combined GPS receiver 1000 as the Mobile terminal communicated with the Base Station, hence the Mobile terminal inherently provide the Mobile Identification Number.

Regarding **claims 19 & 20**, further Krasner teaches a conventional GPS receiver 900 in FIG.9 and an invention in FIG.10 of a combined GPS receiver 1000 with the acquisition circuit 400 (the conventional GPS receiver) and a communication transceiver 1020 (column 13, lines 51-59 '041).

As Barnard's invention related to a direct sequence spread spectrum (DSSS) radio convention receive in the NAVSTAR GPS system, at the time of the invention was made, it would have been obvious to one of ordinary skill in the art to have the combined GPS receiver with a communication transceiver taught by Krasner to upgrade Barnard's GPS receiver in order to transmit the location data of the combined GPS receiver back or to other remote location for efficiently utilizing the location data (column 14, lines 7-12 '041).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M. Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed H. Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Edith Chang
May 31, 2006


KHAI TRAN
PRIMARY EXAMINER